Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

Descriptions of two new species of ANODONTÆ, from Arctic America.

BY ISAAC LEA.

Anodonta Kennicottii.—Testâ lævi, ellipticâ subinflatâ, inæquilaterali, posticè obtusè biangulatâ, anticè rotundâ; valvulis subtenuibus; natibus prominentibus, acuminatis, ad apices granulatis; epidermide pallido-luteâ usque tenebroso-fuscâ, eradiatâ; margaritâ cæruleo-albâ et iridescente.

Hab.—Great Slave Lake at Fort Rae, and north end of Lake Winnipeg, Arctic America. R. Kennicott.

Anodonta Simpsoniana.—Testâ lævi, ellipticâ, subcompressâ, elongato-lenticulari, posticè obtusè angulatâ, anticè rotundâ; valvulis tenuibus; natibus prominulis, ad apices undulatis; epidermide tenebroso-fuscâ, eradiatâ; margaritâ cæruleo-albâ et iridescente.

Hab.—Fort Rae, Great Slave Lake, Arctic America. R. Kennicott.

March 5th.

Mr. Lea, President, in the Chair.

Forty-three members present.

The following papers were presented for publication:

"Descriptions of twelve new species of Uniones from Alabama, by Isaac Lea."

"Remarks on a species of Osmerus, taken in the Schuylkill, below Fairmount dam, by Thaddeus Norris."

And were referred to Committees.

Mr. Lea read extracts from a letter from Dr. Showalter, Uniontown, Alabama, in which he expresses a belief that the genus Schizostoma is found only in the Coosa River.

The deaths of Dr. Samuel Moore, a member, at Philadelphia, on the 18th of February, and of Prof. F. Tiedemann, of Heidelberg, a correspondent of the Academy, were announced.

March 12th.

Mr. Lea, President, in the Chair.

Forty-seven members present.

A paper was presented for publication entitled

"Notes on new and rarer species of Diatomaceæ of the United States, by Francis W. Lewis, M. D.," and was referred to a Committee.

Dr. Stewardson read extracts from a letter from Prof. Wyman, of Cambridge, dated Feb. 24, 1861, in relation to the habits of Anableps, which, swimming as it usually does upon the surface of the water, and sometimes leaving that element entirely, is enabled, by the peculiar structure of its eyes, to see as well in air as water, the upper half of the eye being especially adapted to receive the rays of light from the atmosphere, the lower half, from the water.

March 19th.

Mr. Lea, President, in the Chair.

Forty-five members present.

Copies of the Proceedings for January and February were laid on the table.

Mr. Lea read portions of a letter from Dr. Lewis, of Mohawk, N. Y., in relation to the habits and growth of Unionidæ.

In the letter read, Dr. Lewis observes that there are excellent reasons for believing that the dark lines upon the exterior of the Uniones, usually supposed to mark the annual stages of growth, are really year marks, and in proof adduces his observation upon shells found in the Erie canal near Mohawk. This canal, from the 1st of April until the close of navigation, has a depth of from 5 to 7 feet; when closed by ice, this level is reduced so that the mud at the bottom is frozen to the depth of from 4 to 10 inches. In early spring, the water is drawn down for repairs, and the mud exposed. During summer, the canal is richly supplied with materials for the growth both of the shell and soft-parts of the Molluscs. Thus in summer these Molluscs grow rapidly, whilst in winter there must be a period of repose, during which developement is partially suspended, partly because there is less food, but more certainly because the Uniones burrow deeply in the mud to be beyond the reach of frost. "That they do burrow, I know," says Dr. Lewis, by the following facts. In one portion of the canal, several years ago, I found a considerable depth of frozen mud enclosing Uniones, Margaritanæ and Anodontæ —all dead. After this mud was softened by the sun, great numbers of those Molluscs made their way to the surface from below. Again, in certain portions of the canal, where the bottom was being excavated to the depth of 12 to 18 inches, early in spring, last year, Uniones were turned up from the lowest depths, while only very few had yet made their appearance at the surface.

A certain portion of the canal, which some 7 or 8 years ago had been completed for about 8 or 9 years, then produced shells in which none of the specimens I could find there presented a greater number of *year marks* than the period would lead us to expect, if those marks be really year marks. I distinctly recollect having counted the year marks of numerous specimens at the time I speak of, with the fact before me that the shells *could not* have an age greater than 8 or 9 years."

In regard to the age at which various species of Naiades become capable of reproducing their species, Dr. Lewis "has noticed that no ova are discoverable in some species until after they have attained two, three or four year marks."

He thinks "Anodontæ mature earlier than Margaritanæ, while these latter mature earlier than Uniones proper."

In reference to the study of the developement of the Unio from its embryonic form, he makes the following suggestions :—"I would isolate species from each other in shallow cisterns of considerable area, permitting a small current of water to enter the cisterns, so as not to agitate the stratum of mud at the bottom, and provide a strainer of cloth at the point where the waste water is permitted to escape, so as to retain on its *inclined surface* whatever minute forms might be floated there. Many germs, no doubt, would thus be easily accessible, without any confusion of species, and by making daily examinations of the deposits on the strainer, the developement of species could be studied up to that point when the true character of the Mollusc begins to be apparent."

His efforts to transplant the Unio radiatus from the lakes to the Erie canal have been unsuccessful, but in the course of them, he observed "that there is not a uniformity either in form or color in different individuals. The appendages of the syphons, as well as I am able to state from memory, do not seem to present the same appearances in detail, in all individuals. I think, however, that the variations in appearance may be ascribed to some habit of the animal—or may relate to its momentary condition. Sex may also have something to do with it."

In a postscript he states that he is inclined to think that the marks observable on Paludinæ are *year marks*. Judging by these and the examination of the soft-parts, Paludinæ, he says, begin to bear young about the third or fourth year. When they begin to bear young, two, three, four or five young are the first progeny. The size of the young in the first progeny is not different from the size of the young produced by a full grown adult, bearing from 16 to 25 young at one gestation. The number of young, therefore, produced by an individual, in Paludina, corresponds to the size of the parent."

The deaths of Mr. David March Warren, on the 10th inst., and Dr. Richard Clements, on the 13th inst., members of the Academy, were announced.

March 26th.

Mr. Lea, President, in the Chair.

Thirty five members present.

On report of the respective Committees, the following papers were ordered to be published in the Proceedings :

Remarks on a species of OSMERUS taken in the Schuylkill, below Fairmount Dam.

BY THAD. NORRIS.

Form.—Elliptical, elongated ; section oval ; breadth compared with its length (exclusive of caudal) as 2 to 11, and head from tip of lower jaw to posterior angle of opercle as 5 to 22.

Lower jaw projecting, with an upward curve ; scales on all the gill covers, largest on preopercle ; five large recurved teeth on the tongue, the largest on the extreme point ; two of the same kind on the front of the upper jaw ; no teeth on the vomer, but a patch of small ones on the palatine bones and maxillaries.

Color.—Silvery steel above, with light greenish reflections ; a distinct streak of bright roseate purple extending immediately above and along the lateral line ; sides silvery ; belly brilliantly white. Branchial rays 8.—D 11, C 20 ; P 11 ; V 8 , A 15.—The second dorsal has about twenty minute but distinct cartilaginous rays ; tail forked, upper lobe slightly longest.

The points of difference between this and the *O. viridescens* are the more Southern habitat of the new species, its smaller and more uniform size, and the distinct roseate purple of the streak above the lateral line. *O. viridescens*, (the northern smelt,) attains the length of 12 inches. I have seen the new species here described in quantities at New Brunswick, New Jersey, but never exceeding 6½ inches exclusive of caudal.

Storer enumerates 14 rays in the pectorals of *O. viridescens*, but on a recent examination of that species I found only 11, as in the new species, and that the fin rays of both are identical.

There are several circumstances of interest connected with this little fish. It is the smallest of all the Salmonidæ, except the two genera of *Scopulus* and *Mallotus*. It is the only fish of the Salmon family besides the brook trout found in our waters, and the only species of *Anadromus salmonidæ* that visits the Delaware and its tributaries. Whether this fish enters any fresh rivers south of Cape Henlopen is a matter of conjecture, but I have no doubt, if properly sought for, it may be found very early in the spring, in many streams falling into the Delaware, particularly in rapids or near the falls of a dam which obstructs the upward flow of the tide.

It appears to visit our waters only for the purpose of spawning, and is found at the falls below Fairmount dam for a few days in February or early in March. In those I examined a few days since, I found the milt partly discharged from the male and exuding in a semi-fluid state from the vent. Many of the females had cast their spawn, in others it was partially dis-